Analysis (of a process)

A process analysis is an explanation of how something occurs, is accomplished, is made or is organized. The analysis is when the process is separated into parts to examine their natures, proportions, functions and relationships.

Process analysis is NOT a list of instructions but an ordered sequence of events. These processes are usually:

* Linear
* Cyclical
* Independent
* Interdependent

One finds process analyses in textbooks, newspapers, magazines and technical or professional reports. They are read by scientists, technicians, operators, business people, students and the general public.

Process analyses may contain elements of mechanism description (how something is put together) or instructions (what to do) but it is much more. Additionally, process analyses answers:

* What occurs
* Where it occurs
* When it occurs
* How is occurs
* To what extent is occurs
* Under what conditions it occurs
* Why it occurs

Readers should be able to judge the reliability, practicality and efficiency of the process. This includes estimates of its difficulty, problems likely to occur and successful solutions to these problems.

**Types of process analysis**

There are three basic types of informational process analysis, which aim to increase the general knowledge of the reader.

* Historical analysis explains how and why an event/idea occurred. For example, how the microcomputer was developed; how the UN was formed.
* Scientific, mechanical or natural analysis explains how such processes occur or should occur. For example, how chemotherapy cures cancer; how hurricanes develop.
* Organisational analysis explains the steps, methods and pitfalls of efficiently performing a human process. For example, how a manager motivates staff; how is plant is propagated.

**Preliminary considerations**

Before writing a process analysis, one must consider the audience, the title of the analysis and use of appropriate language.

Audience

This is usually a novice seeking specific information. Therefore:

* Provide ample background material
* Define all terms
* Use simple language and visuals

Title

* Avoid a how-to that implies instructions (How to Prepare An Income Statement for a Small Business).
* Titles should be precise, descriptive and limiting, for example, “Preparing an Income Statement for a Small Business”.

Language

* While instructions use the imperative mood (that is, giving orders), the process analysis uses the indicative. So, **NOT** “Apply a layer of resin” BUT “the technician applies the resin layer” (active) or “the resin layer is applied” (passive). Avoid using ‘you’ or ‘yours’.
* Also, avoid metaphorical devices that may be interpreted as sexist, racist, classist or ethnocentric, for example, ‘studgun’, ‘master-to-slave’ exchange of data transfers.
* Lists and items within flowcharts should be parallel grammatically.
* Students should head each section with “Stage X: name of stage” or “Step X: name of step” as appropriate.
* Appropriate transitional phrases must be used between all steps
* The language is more descriptive for this assignment:

Example: “Step 1”

The bottom and sides of the baking pan are lightly greased before the batter is poured in to prevent it sticking to the pan.

Example: “Step 3”

Magma is pushed from the earth’s core by…

**Standards**

* All steps must be in chronological order with the appropriate heading or sub-heading .e.g. “step 1”.
* Each step must be analysed and the significance given i.e. why each step is performed in a particular manner.

All processes are divided into stages (or main steps). Complex stages have steps. Like the mechanism description, the process analysis has three parts:

* the introduction (prefatory material)
* the body (analysis)
* the concluding discussion

Introduction should include:

* + Statement of audience
  + Statement of definition/purpose
  + Statements of background/theory
  + Statements as to who performs the process and when and where it is performed
  + Any special considerations or warnings
  + An explanation or list of resources needed (tools, materials, supplies, equipment, apparatus etc.) for the process to work
  + List of chronological stages
  + Flowchart showing the relationship of stages

In the **body analysis**, each stage should be analysed as a micro-analysis:

* First/second/third stage (with graphics)
* Statements of definition/purpose
* Theory (if applicable only to specific step)
* Special considerations (if applicable only to specific step)
* Steps (if applicable)
* Flowchart showing relationship of steps
* Analysis of each step

In the concluding discussion, evaluate the process for its reliability, practicality and efficiency.

* Results evaluation
* Time and cost
* Advantages and disadvantages
* Effectiveness and importance
* Relationship to larger process

1. Pre-writing

2. Writing

3. Re-writing

Figure 2. Flowchart of the stages of the writing process